

ADVANCED DESIGN THINKING

A new course to foster innovation and creative-problem solving

A report on the implementation of our Engaged Practices Innovation (EPI) Grant June 2017

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OVERVIEW

"Advanced Design Thinking" (ADT) was a new course piloted at UVM during the Spring semester of 2017, designed to increase student engagement through the implementation of high-impact practices including project-based learning, service learning, collaborative assignments, and capstone/culminating experiences. Eugene Korsunskiy was the primary instructor of this course, which he taught in collaboration with Prof. Erik Monsen and Steve Kostell, who each led two class sessions. Our goal was to create an engaging learning experience which increased our students' creative confidence, problem-solving skills, collaboration/teamwork skills, and presentation/communication skills, all while helping to prepare our students to be innovators in an ever-more-rapidly changing world and job market. We are delighted to report that the course was tremendously successful.

COURSE SUMMARY

ADT was a 3-credit course, offered under the designation AS196D. We had set the enrollment cap for this pilot at 10 students, but due to overwhelming student demand, we decided to increase enrollment to 16.

At the beginning of the semester, students were asked to brainstorm a list of potential project topics on which they would be interested to work for the duration of the semester. These ranged from "How might we make the voting process easier?" to "How might we provide low income families with access to healthier food options at a reasonable cost?" to "How can we make women feel safer walking through the street at night?", etc. The complete list of topics is included as Appendix V.

Students were then asked to self-group into teams, and each team was asked to select their project topic. The five student teams chose the following prompts as starting points:

1. How might we promote the reading or understanding of nutrition labels?

- 2. How might we limit waste produced by school supplies?
- 3. How might we encourage college students to be more mindful in terms of food choices, exercise, and mental/emotional well-being?
- 4. How might we use art produced by children in schools to fund school arts programs?
- 5. How might we encourage people to spend less time on their cell phones?

The students were then led through the design thinking process, as they conducted primary research, analyzed their findings, generated solution ideas, and then prototyped and refined their proposed concepts. Class meetings were frequently dedicated to work-in-progress presentations and feedback sessions, which gave the students opportunities to learn through prototyping, setbacks, and iteration. Each student team was guided along the process of setting and scheduling their own milestones, and each team was held accountable to meeting the milestones which they had set. Each team was given the autonomy to craft the strategy required to carry out their project, including determining and reaching out to the stakeholders and community partners whose input was important, formulating an ideation and prototyping timeline, managing the acquisition of supplies and equipment needed for concept realization, etc.

Two important externally-imposed milestones which provided students with scheduled moments of accountability and reflection were: 1) our mid-semester prototype show, for which approximately two dozen jurors—faculty, staff, and other students—came to give feedback on work-in-progress, and 2) the Student Research Conference, which served as the culminating opportunity for the students to present their work to the community.

Through our partnership with the Generator makerspace, the students were trained on several tools and techniques for physical and digital fabrication, which dramatically increased their ability to actualize their ideas. The EPI budget was critical in enabling these trainings to occur. Frequently throughout the semester, the students reported that going to the Generator to work on their projects has been one of their favorite aspects of the ADT experience.

Instrumental to the success of the course were Prof. Erik Monsen and Steve Kostell, who each taught two sessions of ADT. In the beginning of the semester, Monsen led a session on project planning and dealing with ambiguity, introducing tools such as the Gantt chart and the game Fluxx. Kostell led an interactive session on communication and idea-generation, highlighting the importance of keeping the user in mind, and of prototyping and iteration. In the second half of the semester, Monsen led a session on business planning, including tools such as the Business Model Canvas, Value Map, and Customer Profiles, in order to help students think about what it takes to translate their ideas into reality. Kostell led a session on the ethics of design, using concepts from William McDonough's *Cradle to Cradle* to illustrate the responsibility that designers have for considering the social and environmental impacts of their products.

One critical thread which was carried throughout the semester in ADT was explicit focus on teamwork. Rather than simply being assigned into groups and given a series of tasks to complete, the students were frequently asked to reflect, individually and in conversation with each other, about the status and performance of their team, including interpersonal dynamics, allocation of work/resources/ credit/blame, etc. Several in-class sessions were dedicated specifically to team conversations, in which each team was required to introspect about their working process, and asked to generate strategies for improving that process. Focus was placed on productive conflict resolution, leadership roles, communication, responsibility, respect, and balance. To aid in this, at the beginning of the semester each team was required to create an internal contract, spelling out the rules to which each team member vowed to hold themselves and their teammates for the duration of the project. These contracts included student-generated rules such "Deal with problems/frictions/quirks and annoyances as they occur. Don't let them build up," "Ask questions early and often. Respect that there are no stupid questions,", "One may not repress the ideas of a teammate," and "Be mindful of phone usage during team meetings."

Hills 20 provided a highly conducive learning environment for ADT. The flexibility afforded by the space allowed the class to be reconfigured in real-time to allow for teamwork activities, plenary discussion, lecture, presentation, trade show format, etc.

We've included the semester calendar as Appendix II to provide more detail about the focus of each class meeting.

OUTCOMES

Student feedback shows unambiguously that the ADT experience was an engaging, valuable, and impactful one. One student echoed the sentiment of many when they wrote in their end-of-semester reflection: "Advanced Design Thinking has changed my life." (Excerpts from end-of-semester reflection are included here as Appendix III, and the complete course evaluations are included as Appendix IV.)

We can point to several discrete learning outcomes reported by the students and observed by the instructors. As one student wrote in their end-of-semester reflection, "Throughout this class, my personal development has been much more noticeable and profitable than a lot of my other classes." Another wrote, "Over the course of the semester, I've developed in so many ways."

One valuable outcome which ADT appears to have achieved is an increase in students' **creative confidence** and faith in their ability to make a real impact in the world, exemplified by student remarks such as "I feel more confident in my ability to think creatively" and "I feel more confident in my ideas and feel <u>much</u> more capable of going out and making them real."

Another learning outcome that ADT was able to provide to the students is an increased **ability** to work effectively on a team. Students reported that "above all, I feel much more confident in my ability to problem solve and work with a team," "[I learned] how to be a good teammate," and "I am a much better team player, and learned how to work with a team."

Students also reported that ADT helped them boost their **presentation and communication skills**: "Speaking in front of people has always been a struggle of mine. This class has helped me grow <u>a</u> <u>lot</u> in that realm." and "One of the most valuable things this course has also taught me, with which I've struggled for such a long time, was fostering and uplifting my ability to speak up—something that I've now learned to love and value deeply."

ADT has also demonstrated that this kind of design-based capstone project experience is excellent at driving students' **intrinsic motivation** to work: "I've <u>actually</u>, for the first time in my life, not procrastinated in a course or on a project," "I've never felt so much passion for a school project," and "I found myself wanting to put in extra work and seeing what my team could accomplish beyond just getting a good grade."

This course seems to have enabled students to see how the **transferable skills** they acquire in the classroom are applicable in the world outside. One student wrote, "I feel more prepared to enter the workforce." Another wrote, "Something I especially enjoyed about this course is how applicable it is to everyone regardless of what they are studying at UVM. I feel like the takeaways of ADT (teamwork, confidence, understanding of design process) are valuable to anyone and they can be applied to any field. I am so happy that I got to take this course this semester." In the process, ADT seems to have supplied students with a newfound optimism: "I've gone from worried and trapped thinking about the future to feeling genuinely excited and enthralled by all the competing opportunities. I'm now confident that we can AND WILL solve the biggest problems facing the living beings of Earth."

And although we are working here with a really small *n*, we have some evidence that ADT along with the family of design thinking courses and initiatives of which it is a part—is a promising tool for student **retention**. One student wrote: "Eugene Korsunskiy is the reason why I am still at UVM. Without him, I would have dropped out or transferred a long time ago. He has truly changed my life." (It bears mentioning that the success of the course has earned Korsunskiy a nomination for the Kroepsch-Maurice Excellence in Teaching Award this semester.)

Somewhat to our surprise (and certainly, it appears, to the surprise of the students), <u>all five proj</u>ects on which the students worked in ADT are actually poised to live on past the semester:

- 1. The team that focused on nutrition labels was invited to partner with UVM's Real Food Challenge, and the stickers which the students designed will now be used to label food in several on-campus establishments.
- 2. The team working to reduce campus paper waste invented a reusable dry-erase sticky note, and are now filing for a provisional patent for their product, as they gear up to bring it to market.
- 3. The team that set out to help college students integrate exercise into their daily life was asked by the Student Government Association to create a "Classroom Gym" on campus: a classroom which encourages and enables mild physical activity as a way to help students focus on studying.
- 4. The team working on a system to use art created by children to fund school arts programs decided to enter UVM's Business Pitch Competition, in which they received an Honorable

Mention, and have also secured office space in Essex which they will use to build a non-profit organization around their idea.

5. The team that aimed to reduce cell phone use during meal times was the subject of a story on Vermont Public Radio (<u>http://digital.vpr.net/post/uvm-students-design-class-tack-le-common-problem-smartphone-addiction</u>), and are now working to fabricate their prototypes and implement them in local restaurants.

Since the students were told on the syllabus that "realness" (i.e. tangible impact outside the classroom) is the main objective for their projects to achieve, we see the fact that all teams have imple-

mentation plans for continuing their project as a wonderful indicator of ADT's success.

FUTURE PLANS

Our plan was to continue offering Advanced Design Thinking each spring semester going forward. Unfortunately, the College of Arts and Sciences has decided to discontinue funding for Korsunskiy's position, so this course will no longer be offered.

APPENDIX I: SYLLABUS

(Attached on the next page)

COURSE INFO

Course number: AS 196 D Semester: Spring 2017 Meeting times: 5:05pm - 6:20pm (Mon & Wed) Location: Hills 20 Website: go.uvm.edu/adt

INSTRUCTOR

Name: Eugene Korsunskiy Email: eugene.korsunskiy@uvm.edu Office: Old Mill 512 Office hours: By appointment

OVERVIEW & OBJECTIVES

In Design Thinking, you learned a new methodology for innovation and creative problem-solving. In this course, you get to put it into action and work on a cause that you care about.

You will work on a single design project all semester. You will form a team, choose your own topic, conduct primary research, synthesize your findings to frame a compelling problem statement, and then brainstorm, prototype, and test various solutions. You will present your work at the end-of-semester Student Research Conference, where you will make a display/poster, and also deliver a presentation. Other milestones will include work-in-progress presentations, reflections, and a mid-semester prototype show, when we'll invite an audience to look at and give you feedback on your mid-semester prototypes.

Our most important goal is that by the end of the semester your project has to be real and in the world. "Real" will mean different things depending on the format of your project, but regardless of what it means, "realness" will be the most important criteria by which your project will be judged.

The main aims of this course are that by the end of the semester you feel even more equipped and empowered to: identify and articulate problems in the world that need solving; strategize and execute a plan for tackling those problems; assemble, lead, and participate in a effective team of collaborators; determine and locate the resources that you might need to complete a project; manage a complex project, including setting timelines and milestones; learn from and deal with setbacks and failures; and innovate in any domain.

ASSIGNMENTS & EXPECTATIONS

THIS CLASS WILL BE A LOT OF WORK. It is not a good class to take if you're looking for something light. The deal with design is that you get out of it what you put into it, and a commitment to immersing yourself in the problem at hand is required if you want to get anywhere interesting and worthwhile. There will be no tests, no papers, and no assigned readings; instead, you should expect to spend a significant amount of time outside of class (**between 6 and 12 hours per week**) working with your team on your design project.

GRADING

Your grade in this course will be determined as follows:

- 25% | Midterm presentation, plus all related interim deliverables (Team) Due 3/06
- 35% | Final presentation, plus all related interim deliverables (ream) Due 3/00
- 10% | Final reflection (Individual)
- 30% Participation & Commitment

Each team deliverable will be graded based on a rubric that you will see in advance. The rubric will contain categories such as "thoroughness of research," "demonstration of process work," "quality of final product," and "quality of presentation." For team projects, you will be asked to evaluate your performance and that of your teammates, and individual grades for those projects will be adjusted to reflect the relative contributions of each team member.

Due 5/10

APPENDIX II: COURSE CALENDAR

(Attached on the next page)

ADVANCED DESIGN THINKING 2017

WEEK	MONTH	MON	TUE	WED	THU	FRI	SAT	SUN
1	JAN	¹⁶ MLK DAY	17 First day of classes	18 Kickoff Empathy Mini- Project Assigned	19	20	21	22
2		23 Team Formation; Prof. Erik Monsen Planning Tools	24	25 Needfinding Presentations	26	27	28	29
3	FEB	30 Tour of Generator 40 Sears Lane, 5:15pm	31	1 Project Pitches	2	3	4	5
4		6 Prof. Steve Kostell Creative Strategies	7	8 No Class (Eugene got sick)	9	10	11	12
5		13 Project Plan Review	14	15 Status Updates	16	17	18	19
6		²⁰ PREZ DAY	21	22 Team Day	23	24	25	26
7	MAR	27 Work-in-Progress Feedback	28	1 Preparing for the Prototype Show	2	3	4	5
8		6 MID-SEMESTER PROTOTYPE SHOW	7 TOWN MTG	8 Reflect & Regroup	9	10	11	12
			SPRI	NG BRE	AK			
9		20 Planning Session	21	22 Prof. Erik Monsen Business Factors	23	24	25	26
10	APR	27 Prof. Steve Kostell Ethics of Design	28	29 Lily Fedorko	30	31	1	2

	20	21	22	23	24	25	26
9	Planning Session		Prof. Erik Monsen Business Factors				
	27	28	29	30	31	1	2
10 APR	Prof. Steve Kostell Ethics of Design		Lily Fedorko SRC Info				
	SRC ENTRY DUE!		User Videos Due				
	3	4	5	6	7	8	9
11	Work Session		Work Session				
••							
	10	11	12	13	14	15	16
12	Second Round of User Videos Due		Work Session				
	17	18	19	20	21	22	23
13	Work Session		Concept Finalized				
	24	25	26	27	28	29	30
14	Presentation Prep		Presentation Rehearsals	STUDENT RESEARCH			
• •				CONFERENCE			
	1	2	3	4	5	6	7
15 MAY	Project Debrief		Course Debrief				
					Last day of classes		
	8	9	10	11	12	13	14
	FINALS	FINALS	FINAL REFLECTION DUE	FINALS	FINALS		
			11:59pm				

APPENDIX III: SELECTED QUOTES FROM STUDENT REFLECTIONS

Advanced Design Thinking has changed my life. Yes, this sounds melodramatic but in all honesty it has offered me a multitude of opportunities and fostered relationships with professionals I otherwise never would have conversed with. So thank you for all that you've given to this course, and all that is has given to me.

Based off the experiences and the skillsets that I have gained through this course I feel less and less anxiety for the future, and more and more prospects and enthusiasm.

The beauty within design thinking is it connects people from many diverse backgrounds—from engineers to designers to business.

Throughout this class, my personal development has been much more noticeable and profitable than a lot of my other classes.

There are a lot of new things on my plate since the start of the semester and I can honestly attest their presence to my time in your course and the knowledge I have gained from such a unique academic experience. Thank you for providing me the tools to make ideas come to life. Thank you for showing me a path to finding pride in my commitment and the work that pays off from it. Thank you for always showing enthusiasm and confidence in our project, feeling the positivity you bring to each class meeting recharged us to push harder and find courage to think "outside the box". I couldn't have asked for a better course or a better professor.

I have never taken any other class that has offered me such unfettered access to real-world experience, skill development, and opportunities to build social capital through a network of community assets.

I've never felt so much passion for a school project, nor had I developed such a bond with group members who were assigned to me. This class has strengthened my understanding of the design thinking process as well as my ability to empathize with others and cook up novel, innovative solutions to both simple and complex problems.

Over the course of the semester, I've developed in so many ways, but ADT has especially bolstered my ability to understand people's feelings, identify problems, and offer solutions... These skills have helped me not only for design thinking, but also for connecting with others in day to day life. In just this past week, I've been able to comfort a close friend of mine who was having a hard time, and I was able to do the same for someone else who I don't even know very well, by reading their emotions in a way that I don't think I could have a year ago – or even last semester for that matter.

Although the full scope of the project was entirely up to us, I never felt like we were on our own. All the other teams were in the same boat, and we were encouraged to collaborate and help each other out wherever possible. It was also great to have Eugene available to offer assistance whenever we hit a snag. Final decisions were ours to make, but Eugene was always there to point us in the right direction and provide us with the contacts or resources to make it happen. It's perplexing how a professor who doesn't necessarily have any background knowledge of the content of our projects could play such a large role in our success.... Eugene utilizes his mastery of the process to guide us along whatever path we choose, and he knows the importance of failing again and again until that one moment, in which you realize you might finally be onto something. Eugene motivates us with his dedication to innovation and progress, along with how deeply he

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cares about each and every one of us.

Advanced Design Thinking has introduced me to knowledge, skillsets, and friendships that will last me a lifetime.

I can think of so many takeaways from this class/project. This class was so much fun and it was so unique to any class I have ever taken before, mainly because it didn't feel like a class (in a good way). I found myself wanting to put in extra work and seeing what my team could accomplish beyond just getting a good grade. But above all, I feel much more confident in my ability to problem solve and work with a team.

After learning about the design process in this class, I feel like I can call myself a problem solver and design thinker, and I now feel like I have the resources to be able to create.

I think a good takeaway from this course was learning how to give feedback, and to realize that not being honest doesn't help anyone's project improve... Another takeaway from this course is learning to collaborate.

Something I especially enjoyed about this course is how applicable it is to everyone regardless of what they are studying at UVM. I feel like the takeaways of ADT (teamwork, confidence, understanding of design process) are valuable to anyone and they can be applied to any field. I am so happy that I got to take this course this semester-I just declared my major in computer science, and my CS courses combined with ADT have definitely made me more confident as a problem solver.

SELECTED QUOTES FROM COURSE EVALUATIONS

Amazing class and so happy I took it! Hope you're here next semester!

This was the only class all semester I never once dreaded attending.

I've <u>actually</u>, for the first time in my life, not procrastinated in a course or on a project.

I feel more prepared to enter the workforce.

I feel more confident in my ability to think creatively.

I feel more confident in my ideas and feel <u>much</u> more capable of going out and making them real.

I have become more confident in my abilities as a designer & leader & learned not to second guess myself. I have learned how to take negative feedback & use it to fuel a better design/prototype.

[I have gained] confidence in myself.

Speaking in front of people has always been a struggle of mine. This class has helped me grow <u>a lot</u> in that realm.

[I have gained] Confidence in speaking publicly [and] belief in my own ideas.

[I have learned] how to be a good teammate.

One of the most valuable things this course has also taught me, with which I've struggled for such a long

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time, was fostering and uplifting my ability to speak up—something that I've now learned to love and value deeply.

I've gone from worried and trapped thinking about the future to feeling genuinely excited and enthralled by all the competing opportunities.

I'm now confident that we can AND WILL solve the biggest problems facing the living beings of Earth.

SELECTED QUOTES ABOUT THE INSTRUCTOR, FROM COURSE EVALUATIONS

Thank you for being such a positive and creative person. We need more professors like you. I know you genuinely care about the performance of your students and I hope you know how much you have helped me especially as a 1st year student.

Thank you for teaching this class! I don't think that there has been a single teacher/professor who has come close to being as inspiring, caring, fun, and life-changing as you have.

I love you Eugene!

You're the best professor I've had at UVM & the most thorough & caring.

Eugene is a one-of-a-kind gem. ... If anyone has taught me anything is possible with determination & effort it has been you.

You have time and time again proven you are the most valuable person in the faculty of UVM for me. You've truly changed my life.

You changed my life, Eugene, and I am forever thankful for that.

Eugene is the <u>BEST</u> professor I have ever had—in college and in the past 18 or so years.

APPENDIX IV: UNABRIDGED COURSE EVALUATIONS

(Attached starting on the next page)

What is your c	lass year?				
0	0		0	·0	
First-year	Sophomore		Junior	Senior	
Compared to a	typical course you've taken	at UVM, how valuabl	e was this course for you?		
0	0		0		
Much less valuable	Somewhat less valuable	About average	Somewhat more valuable	Much more valuable	
this course, ou	typical 3-credit course you' itside of class times?			-	
0	0			0	
Much less time	Somewhat less time	About the same	Somewhat more time	Much more time	
			8727.5.0		
What are the top 3 (or so) most useful learnings & takeaways for you from this course? <u>Be specific!</u> • I made some great friends who have completely different skills than I, which helped me to foster and understand what makes a great team the way they are. • I tearned to a lot about myself, especially by working so closely and intimately with friends who were able to speak up and give feedback to my fift. • Irre learned to let my mind spit out some really weird ideas, and some dry humor working with my grayp.					
In what ways (if at all), do you think you've	changed/grown as a	result of this course? Be sp	pecific!	

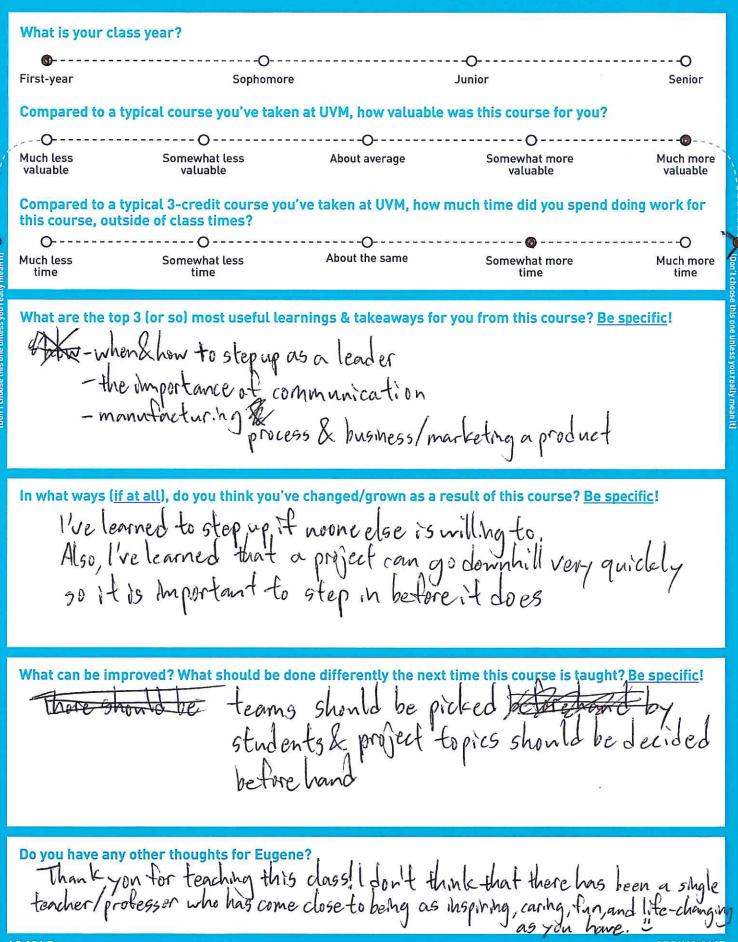
This course has negled me to understand that I work the best in an environment of people that I feel safe and confortable in one of the more valuable things this course has also taught me, with which ive struggled with for such a long time, was my attrificturing and uplifting my ability to speak up - something that we now learned to love and value deeply.

What can be improved? What should be done differently the next time this course is taught? <u>Be specific</u>! Having a short design project for like a week and a half in the begining may be helpful in forcing productivity in the long run - I felt my grap seemed to shaek off at points, and by tightening the schedule this may help. Or also a mini project midway through the sementer would be cool - like a mini creative project for a week.

Do you have any other thoughts for Eugene? المسلاح

Least valuable course l've ever taken O-Don't choose this one unless you really mean it)

Most valuable course I ve ever taken Don't choose this one unless you really mean it)



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SPRING 2017

AS 196 D

What is your class year? 0-----0-----------0 Sophomore Junior Senior First-year Compared to a typical course you've taken at UVM, how valuable was this course for you? Much less Somewhat less About average Somewhat more Much more valuable valuable valuable valuable Compared to a typical 3-credit course you've taken at UVM, how much time did you spend doing work for this course, outside of class times? 0-----0-About the same Much less Somewhat less Somewhat more Much more time time time time What are the top 3 (or so) most useful learnings & takeaways for you from this course? Be specific! Confidence Speaking publicly -DHIMMANA AND - How to be a good team mate Belief in my an ideas 3 loving and supportive environment helped me grow In what ways (if at all), do you think you've changed/grown as a result of this course? Be specific! This semester has been the best so far in entre College Contractor Career. I now have the confidence ideas. and the Carase Skalls do pursue my and a lat of Project my the My classing of supart What can be improved? What should be done differently the next time this course is taught? Be specific! Teally can't shink of anything dat needs to be changed. Eugene is the BEST proffessor 2 Do you have any other thoughts for Eugene? had - in callege and in the past 18 or Makes me actually want to be there.

AS 196 D

SPRING 2017

What is your class year? Sophomore Junior Senior First-year Compared to a typical course you've taken at UVM, how valuable was this course for you? Much less Much more Somewhat less About average Somewhat more valuable valuable valuable valuable Compared to a typical 3-credit course you've taken at UVM, how much time did you spend doing work for this course, outside of class times? 0-----0- \bigcirc About the same Much less Somewhat less Somewhat more Much more time time time time What are the top 3 (or so) most useful learnings & takeaways for you from this course? Be specific! by learned that team Synamignes car be tricky and their is always a way to compromise a tome aporte ct. together to pull phisenting , proper is n. upor Bork. J felt ward work pay offin 17 I Warned + here racking energy Ly Hands on & communative chead In what ways (if at all), do you think you've changed/grown as a result of this course? Be specific! I believe that Eugene Forsonskiy has thely found a way o bring people together. My team had sitticulties & this Prof. He also guided me. I understand the importance of self health and how that correlates to my performance. I've realized that their is always more of years even whe I think I am a promene is and less inara What can be improved? What should be done differently the next time this course is taught? Be specific! The next time this course is taugent i would consider having larger mid-semester prototype shows all a onance for teams to really look not to make mome Reedback out unit formand monny Do you have any other thoughts for Eugene? (To Evgene) Thank you put being such a positive and cheatine person we never done professors like your z know you genuinely care about the performand and Thope 1

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important to learn as you become an

What is your class year? 0-----0-----0 First-year Sophomore Senior Compared to a typical course you've taken at UVM, how valuable was this course for you? ----0----------**0**-Much less Somewhat less About average Much more Somewhat more valuable valuable valuable valuable Compared to a typical 3-credit course you've taken at UVM, how much time did you spend doing work for this course, outside of class times? 0-----0-----0-----About the same Much less Somewhat less Somewhat more Much more time time time time What are the top 3 (or so) most useful learnings & takeaways for you from this course? Be specific! · It's all about positive collaboration: teams need to be diverse for suress " Faith drives everything. If we can sprint full force into the mist and be okcey with getting bot, then beautiful places will comerge. · You've gotta take time to care about Those around you other, you go farther then ever possible In what ways (if at all), do you think you've changed/grown as a result of this course? Be specific! "I now know what I really want to do in life, and I have the skills, experiences, and friends to doit. · Live gone from worlied and trappal thinking about the fiture b Helling penvinety excited and enthralled by all the competing how confident that we can AND WILL Solve the bigges What can be improved? What should be done differently the next time this course is taught? Be specific! · More deadlines (that are lasse and non-binding, but present " That's all. This class was amazing · More Generator trainings would have been amazin Do you have any other thoughts for Eugene? You changed my life Eugene, and I am forever thankful for that. You changed and helped everyone I Know and I don't think it's possible to ever understand just how much of a positive impact you've had in the world. You gave Maddie her, AS 196 D SPRING 2017

La roufilence loack, and that alone has been so beautiful to be a part of There is Finner in

What is your class year? Senior Junior First-year Sophomore Compared to a typical course you've taken at UVM, how valuable was this course for you? Much more Somewhat more About average Much less Somewhat less valuable valuable valuable valuable Compared to a typical 3-credit course you've taken at UVM, how much time did you spend doing work for this course, outside of class times? -----0 Ó Most About the same Much more Much less Somewhat less Somewhat more time time time time What are the top 3 (or so) most useful learnings & takeaways for you from this course? Be specific! · Create deadlines for yourself and sticle to them · Colaboration Can be good or bad, I felt as though this whole thing Could name gone smoother for me was my group. · Nower through and follow through with idoas Conto In what ways (if at all), do you think you've changed/grown as a result of this course? Be specific! · Unfortunadely this made me Pesimistic of group work a bit. However I did learn to Rower through and just take things into my own hands and deliver in Crunch time and work under high stress. What can be improved? What should be done differently the next time this course is taught? Be specific! · harder deadlines from the Start 4 PERSON GROUPS! too hard to schedule time. Include more deliverables Do you have any other thoughts for Eugene? you have time and time again Proven you are the most valuable Person in the Faculty of of UVM for Me. You've think changed my life.

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What is your class year? Junior First-year Sophomore Senior Compared to a typical course you've taken at UVM, how valuable was this course for you? Much less Somewhat less About average Somewhat more Much more valuable valuable valuable valuable Compared to a typical 3-credit course you've taken at UVM, how much time did you spend doing work for this course, outside of class times? About the same Much less Somewhat less Somewhat more Much more time time time time What are the top 3 (or sp) most useful learnings & takeaways for you from this course? Be specific! Team work, and importance of retining skills in all areas (social skills public speaks Effective Interpersonal skills Equipment Fraining) and the importance of to your project In what ways (if at all), do you think you've changed/grown as a result of this course? Be specific! Hen exposure to the otheraspects ma feed back and prake from impos y expanded my while doing my project, but all the augure What can be improved? What should be done differently the next time this course is taught? Be specific! the deadlines to keepteams on track. providing some sort of evidence that were hings done outside of class

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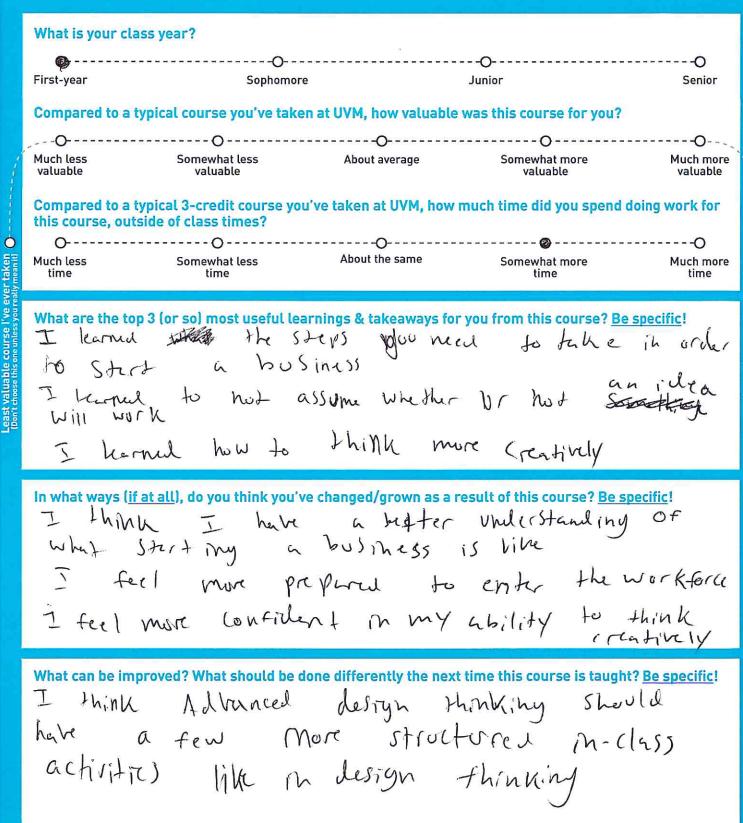
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Do you have any other thoughts for Eugene?

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The Class was 56 great, and 50 are you, i thre That Design Thinking can find a good home at UVM.

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What can be improved? What should be done differently the next time this course is taught? Be specific!

No complaints.

Do you have any other thoughts for Eugene?

Thank you for everything .



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Do you have any other thoughts for Eugene? Elgene is a one-of-a-thed gen. Keep your head up and your vision on the horizon. If anyone has taught me anything is possible with determination + effort it has been you.

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APPENDIX V: PROJECT TOPICS PROPOSED BY STUDENTS

(Attached starting on the next page)

How might we create a fully integrated Design Thinking experience at UVM?

While sometimes confused as a five-step checklist, Design Thinking is really a set of philosophies, mindsets, and tools enabling activists to understand and truly solve the problems around us. While many UVM students thankfully study where their hearts are, many great courses are tragically taught in a passivist hierarchical style, which helps students develop a deep understanding of the world's problems, but doesn't teach them all the philosophies, mindsets, and tools needed to solve them! Critical thinking is there, but the taught ability to innovate often isn't, leading to deep frustration, leading to a loss of hope, which is the ultimate enemy of macro-problem-solving. We can change this though. If we can figure out how to create a fully integrated DT experiences in our classes, living environments, and ultimately lives, I believe we will inspire a newfound activism in UVMers paired with a massive ability to create real positive change and show the world there really is hope no matter how large the challenges are. -Frankie

How might we enable people to significanly cut their climate impact and have a darned good (and visible) time doing it?

Almost everyone in Burlington agrees that eliminating out carbon footprint is important, but they also feel like that means sacrificing quality of life. The thing is, a greener life is actually a much funner one! The aim of this project is to enable people to make significant cuts in areas that will actually improve their Q of L and visibly show it to others so they're also spurred to act. -Frankie

How might we make the voting process easier?(expand online voter registration) (plan resources to cut wait times/ help voters before they show up) (expand early voting)(hold elections in schools) (voter language) (****get with the 21st century (seriously))

Long lines, delayed counts, broken equipment and partisan infighting are just some of the roadblocks voters face when they cast ballots on Election Day. Even 225 years after the first presidential election, the world's greatest democracy hasn't quite figured out how to run a hiccup-free voting day. This is a discussion I think alot of UVM students would be engaged with especially now more than ever. It is a very serious matter and is fairly advanced but we are that generation and we have the potential to initiate what is new. -Sierra How might we integrate design thinking into the administration of schools?

Instead of working with the students how can we work with the teachers? There is definitly interest in design thinking nationally and internationally but alot of the focus is on a younger audience. How can we reverse that and use design thinking to influence the older generations? How can change the way classes are taught and organizations like schools are run? -Sierra

How can we better prepare students for the workforce?

Instead of internships is there a way to be a part of the gig economy and finish an academic degree? Can that progress be tracked and valued? -Peter

How can we clean our butts better after taking a dump?

Instead of using tissue paper to clean aour butts which is consider a waste of paper and time (which takes forever to clean it), why not have a faucet system in our restroom to rinse our butt which not only is cleaner but also less time consuming especially during class hours -Abi

How might we make the grocery store a place people want to be, and a place that provides more than harmful processed goods?

The supermarket is a classic case in drudgery for many people whose busy lives make this task a chore that is time consuming and inconvenient. Today's society has become so disconencted from modes of food productionand the meaning it can have in life that the whole place becomes a daunting confirmation of everything wrong with our food system instead of the land of opportunity it could be. Moreover, over 40 % of food produced in the US is wasted, while 1 in 7 simultaneously go hungry. The supermarket and teh houshold are the sites where the majority of these losses occur, but a supermarket that serves a wider array of purposes could change that. This re-designed space could offer nutrition or cooking classes, a daycare center, cheaper prepared meal kits made from aging produce, a community kitchen...the list goes on. Would love to hear your ideas! -Mariah How might we re-think the education experience to produce innovators and engage students in productive activity?

Laurene Powell Jobs (wife of late Steve Jobs) has begun a project called XQ: The Super School Project, a \$50 million campaign to conceive of and create the next American high school. I think this would be an interesting challenge to take on, though the contest period has ended, Schools across the nation (and the globe) are in need of a massive overhaul. So perhaps rather than creating a few pilot projects, we think about how to integrate elements of new teaching methods on a larger scale. Follow the link to check out the amazing projects that were funded through Jobs' campaign: http://xqsuperschool.org/abouttheproject -Mariah

How might we reduce waste in produced by human systems?

This is definitiely a broad, and complex problem. It would absolutely need to be pared down, and my initial thoughts are working toward reducing food waste as it is such a large part of the waste problem and consumes so many vital resources. Moreover, people are generally agreeable to reducing food waste, and it is much more visible than the secondary impacts that occur from using various consumer products that generate waste much further downstream. -Mariah How might we create an alternative "economy" that is not based on monetary exchange, i.e. how might we go "post-capitalism"?

Capitalism has produced some amazing feats in terms of porductivity and material wealth. However, basic economic theory states that after we reach a certain quantity of any given thing, the marginal utility of each additional unit dwindles until each additional unit actually reduces quality of life. Many theorists are beginning to agree that perhaps we have reached this point where accumulating more monetary wealth and material goods has begun to do humanity a disservice by destorying critical resources and changing the nature of human interactions with the environment and each other. Moreover, despite massive increases in material wealth since the 50's. Americans have gotten steadily less happy. If money no longer equates to happiness or useful production, what might? Check out these videos for an interesting take on the future of world economies: https://www.youtube.com/ watch?v=HDOGE_10vsE&t=58s https://www.youtube.com/watch?v=s-5te03W4LrM -Mariah

How might we get people to drink more water?

I am sure that there are already organizations working on this world wide. There are many proven benefits of drinking water and I am a huge advocate. How can we revamp the water fountains around campus? Or get people even more excited about filling there Swell or Nalgene waterbottles? UVM does not sell bottled water which is great, but how can we ensure people still stay hydrated and healthy?!! -Sierra How might we educate the younger generation on the function of everyday items?

We are living in a world where youth of all ages have access to all sorts of technology, from desktops, to laptops, to smartphones. But how many of them will ever actually know how a computer works? Or how their phone can communicate with someone else's from across the globe? Our division of labor has shaped society so that people often don't acquire such knowledge unless they are specializing in a certain field. Even in driver's ed, they tell you how to follow the rules of the road and be a safe driver, but they don't teach you the first thing about what makes a car drive. So how can we enable everyone to know the basic workings of the things they use every single day? -Max

How might we limit waste produced by school supplies?

There are many academic essentials we carry around on a day-to-day basis. Textbooks may seem like the most obvious source of paper consumption, but let's think even smaller. Each time we tear a sheet from a notebook, we are then left with a useless little strip of paper to either get thrown away or end up on the floor in little pieces. These strips may seem insignificant, but they can add up! So how might we either eliminate this waste altogether or come up with a way to put it to use? -Max How might we create a more dynamic educational system that caters to the needs of individual students without creating unmanageable amounts of work for professors?

It seems that the more students a professor is tasked with teaching the less they can do to actually help the students who struggle with the material. In larger lectures - often attend by freshman, who would likely need the most help acclimating to the college lecture system - any student who is unable to follow the material in class is left a only a few, time consuming, options. -Michael

How might we enrich the experience of hearing impaired theater-goers?

The experience of viewing a play or musical relies so heavily on both sight and hearing that without one the overall experience is diminished in quality for the viewer. -Michael

How might we provide low income families with access to healthier food options at a reasonable cost that wouldn't cut into funds for other essentials?

Fast food and processed foods tend to be cheaper than the healthier organic options. Obesity is already a problem, but above that there is more that can be done to make America healthier on a general dietary level. -Michael

How could we better inhance a world between what people need in a creative market versus what people can create?

I think it would interesting to explore the two worlds that seperate needing something from making something. While there are online platforms like Etsy or Pinterest where you can surf the web in hopes to find a product that you need, there aren't many sources where a collection of artists of differnet variety (graphic designers, sculpters, music producers, poets, painters, etc.) can make money by creating the things that people may request at any given moment. -Alyssa Is there a way to bring a more positive atmosphere into the lives of people who are currently checked into a hospital or will have a stay longer than expected?

It seems as though there is a very recurrent and bland theme that lies with people not enjoying their experiences in a hospital. Regardless a pateint or a guest, with all sickneses, tradgedy and other unfortunate things that happen in life aside, there is a fundamental problem with the way that hospitals are run on a day to day basis. A new shed of hope can be fostered in places with medical tradgedies and miracles to keep spirits high and outcomes higher. -Alyssa

How can a simplified and condensed platfrom with personal information be both easily accesible and applicable to our daily lives?

I went to Disney World recently for Christmas and New Years - each person in my family got a "Magic band". Basically everything from your credit card number to fast passes to photos would be saved onto this little device buckled around your wrist. I think it would be interesting to reseach how Disney came up with this idea and how it could potentially be expanded to some conepts that are applied from a theme park to everyday life. -Alyssa How do we make alcohol consumtion issues into a more of a controlable situation?

Regardles of the amount of warnings and punishment that are given to young adults about the danger of alcohol, in the end they're going to consume it anyway. How do we make the issue at the hand into a situation that we can control and limit? rather than not allowing them to drink at all. Though it may sound we're giving them a bit too much of freedom with this solution, but might as well tell them how, when and where to do it. -Abi

How to create a better language translator?

With Google translator there are times where a certain language is translated it sounds vague and well at least close enough to the original translation which sometimes does sound weird for people who are bilingual. Maybe there's a better method to translate other language in order for it to sound natural and not vague. -Abi How can we revitalize what it means to be organic? (Using our own homes rather than relying on another movement or the industrialization of a certain system in which we have little control over)

The organic movement alongside the industrialization of organic food has been plentiful in protecting and strengthening soil, providing healthier food, eliminating pesticides and synthetics (but not all), reducing fossil fuel emissions by about one third that of conventional industrialization, and essentially providing a few more days for animals to live (even though this may not be a boon hence the known poor treatment of animals within feedlots and large scale farms). Yet often this food seems to cost around three times more than conventional agricultural goods do, making it inaccessible to lots of people. Rather than trying to change the organic agricultural system, which has lost the very purpose of what it means to be 'organic,' we should find a way to make farming easier for everyone to do at home that requires little tending (for the responsibility of caring for a garden, and the lack of space, is probably why most people don't grow their own fruits or vegetables). The organic movement has been a wonderful thing so far, yet there are many, myself included, who want something HEALTHIER! And what is more healthy than food grown in your own backyard or home? (a lot of this info came from The Omnivores Dilemma by Michael Pollan) -Dylan

How might we promote the reading or understanding of nu-tritious labels?

Nutrition is important on SO many levels, from how you feel, to what health problems you will likely be faced with in the future. Yet it seems as though nutrition is something that is looked over when making a decision of what to buy in a grocery store. Maybe because the buyer is potentially over stimulated by the excess amount of goods to choose from, or they are just looking for the sticker that says USDA approved, or organic. Yet necessarily these aren't the only things we need to be looking for i.e corn is in about 1/4 of the products in a large scale supermarket, yet simply qualified under different names; such as xanax gum or dextrose which are even approved by the USDA to be used in organic products. Although corn is great nutritionally, it loses most to all of its nutritional value when passing through the processing steps to turn it into something it necessarily is not. Consumer mindset has to change from examining the price per calorie, to the price per nutritional value. -Dylan How might we be able to make communication on mobile devices more engaging?

I am sure that we can all agree that texting is useful. It is a quick and easy way to get in touch with people when we don't have the time to call them or speak to them in person. Although this is the case, texting has its drawbacks. It is one of the most common methods of digital communication but also happens to be the most unsocial. Conversitions over text are not even close to being as engaging as face-to-face conversations. First of all, when we text people, we do not actually see who we are talking to, which is terrible considering the fact that 93% of communication is non-verbal. With texting, we also do not use our voices, which is another problem because the tone of our voices plays a huge role in how we convey our thoughts to others. Lastly, conversations because they are not instant. Of course, people can say that video chats are the solution to this problem, but lets be real, most people do not have the time to set up video calls on a regular basis.

How can people's standards of fruit/vegetable appearance be lowered to allow more produced crops to be sold in stores?

A lot of crops that are produced are discarded/ prohibited from being sold at stores because of their appearance (brusies, discoloring, shape, etc.) although they are still completely healthy to eat. The idea of what is a healthy fruit/vegetable needs to be changed, so consumers will not be so hesitant to eat a piece of food that does not look "perfect." How could we change people's perception of food and what they are willing to eat, so that a higher perceptage of crop yield can be sold in stores and bought by consumers? -Hope How could the lives of senior citizens (especially in nursing homes) in Burlington be enriched?

Having a program that brings shelter animals to local nursing homes/ senior citizens that receive in-home care to benefit the lives of both the animals and the people. -Hope

How can we make women feel safer walking through the street at night?

Most woment expirience street harassment before puberty which makes women feel uneasy and unsafe walking through the street. Maybe we can create an effective devise that will not only make women feel safer but also be effective if the user is actually faced with a dangerous situation. -Dani How can we create an effective and reliable bikeshare system here in Burlington?

Many cities have bikeshare systems in effect, offering quick, affordable, and environmentally responsible transportation. Burlington has an employee bikeshare system offered to employees within the Burlington community to use during work hours, but this doesn't support the community of people who are looking to bike in their free time and for pleasure. - How can we foster and promote the idea of family composting to benefit, not only personal residences, but the greater Burlington area?

Currently there is a system for free compost removal in Burlington through Chittenden Solid Waste District (CSWD) but this service is a drop-off system in which the only benefit of the process is composting your scraps for free. The perks of the compost however are not directly felt to the user. This is where I hope to find an alternative. My basic idea is linking in-house composting with a pick-up system which would directly benefit community gardens, parks, and farming communities relevant to the composter's area. -Mara How can we instill further safety and education of chemical waste handling and removal within society, fostering a further conscienciousness towards environmental toxins?

Every employee is informed of the material safety data sheet (MSDS) provided by their employer by force of law, but for most civilians who have little experience or interest with chemical information, the MSDS may seem overwhelming or confusing. I would like to promote some type of system that would encourage general knowledge around chemical use which I hope would foster a revaluation of chemical choice. Most chemicals used in the modern market are not only hazardous to humans but extremely dangerous to the environment and the biodiversity that enhabits it. Changing our chemical usage would be a remarkable step in a more environmentally aware and responsible lifestyle.

How could we improve the way our education system works to make it more fair and effective to all?

students who are poor test takers or hands on learners are at a disadvantage in an education system that uses lecturing and standardized tests. -Dani How can we make eating/ cooking healthy meals easier/ more affordable ?

eating healthy is tough for a lot of people because its more costly and it takes more time to prepare a healthy meal. Many people setting for fast food/ frozen food due too cost and time. Diabetes and obesity is at a all time high as part of a result of those two variables. -Dani

How might we make a banana easy to access on-the-go and difficult to forget about?

After I finish eating at a dining hall, I often grab a banana to go. However, I don't always feel like eating it right away. So rather than holding onto it in my hand until I want to eat it [since my hands get cold in the winter] or put it in my pocket [my pockets are too small], I just stuff it into my backpack for later. A few days pass, and then I finally notice either that there is an old rotten banana in the depths of my bag -- or worse -- the banana got squished by the weight of my books and now there is mushy fruit smeared all over my stuff! So how can we come up with a less risky way to store a banana on the go OR simply make it impossible to forget that there's a banana in your backpack? -Max

How can the employment of art majors be helped?

Supporting the forms of art that are less employable-Creating a platform where artists can connect with other artists and employers/buyers can looks at portfolios to find what they are looking for -Hope

How might we improve the roommate questionaire?

The current questionaire is very brief and unspecific and consquently does a bad job of ensuring that roommates are likely to get along. I think it could really help improve the first year experience at UVM if it was made easier for students to find a roommate who they would enjoy spending time and living with. -Aaron How might we decrease the prevelance of fake news stories on social media?

False news is constantly circulating on social media and people are often willing to believe it if it reinforces their beliefs. This leads to a very misinformed public which can be very dangerous. -Aaron

How might we encourage people to spend less time on their cell phones?

Cell phones can be really useful but many people are definitely on them way too much. 60% of U.S. college students consider themselves to have a cell phone addiction so this could be a very important project for us to work on. -Aaron

How might we encourage people to volunteer time/resources?

Although our lives might be pretty good, we live in a world with many problems. I believe that many of these problems could be solved if everyone contributed, even in the smallest way. The only problem is that as far as I know, there is no organized way for people to come together to work on a cause that they care about. -Tomoki

How might we personalize the course selection process to each student and make it easier for students to find and join classes that they are passionate about?

For me, course selection can be very confusing and overwhelming. And I know I can't be the only one who thinks this! The problem that I have run in to is not being aware of all the amazing classes (like this one!) just because they are outside of my major/minor. I think it would be helpful to have a system that recognizes your interests and offers classes to you accordingly! -Madi How might we encourage students to be more mindful in terms of food choices, exercise, and mental/emotional wellbeing?

Especially in such a high stress environment I think it is SO important to be mindful of what you're putting in to your body and how you are doing physically, emotionally, and mentally-because they are all connected! It is so easy to get caught up in school work and social life and neglect your emotional and mental wellbeing. How can we change this? -Madi

How might we improve the lives of animals in our community and encourage other members of the community to do the same?

Animals are a huge passion of mine! I'm not exactly sure what form this project would take, but I think there is definitely something there that, with the help of some good design, could help improve the lives of animals in our community. -Madi

How can we make registering and moving around classes easier?

When I am trying to plan out a schedule it takes me about three tabs, a piece of paper to plan out all the times. Maybe if there was a way to draft a schedule by say dragging classes around then approving the final one it would be easier than planning and than having to register. -Joseph

How can we show people/measure consumption in the clothing industry to change the consumption overall?

Industry in general can be pretty dirty and can is hard to regulate quickly and efficiently, if we could create a rating system for companies that people could easily acess consumers could choose who they want to support and companies may choose to change. -Joseph How can we make a safe/efficient carpool system?

In big cities, commuting is very common, if there was a way to create a system where rides could be given through a carpool rather than uber etc. Less people may drive, reducing traffic and emissions. Also if there was a way to see customers before hand and offer incentives like tax breaks drivers and rider would benefit. -Joseph

How can we limit the amount of robberies in convenience stores/ gas stations?

Dular			
-Dylan			

How might we create an easier to access backcoutry / avalanche safety course?

With the allure of backcountry skiing and riding on the rise, so are the number of people who are ill equiped with both knowlege and gear to go into the backcountry and enjoy the experience. I would like to find a way to make key information more accessable to the masses so that you don't hear more stories like the recent one of a ski patroler who broke both legs and died while out trying to rescue a skier who had NONE of the appropriate avy gear and was caught in a slide. -Sam

How might we create a more comprehensive knowlege of sharing the roads between cars and cyclists?

Road cycling is an amazing workout. you can see so much, travel far distances, and get a wonderful cardio workout in without the jarring running provides to the body. Cyclist deaths are on the rise though because of cars striking cyclists. I am interested in looking to see how we can create an attitude shift moving forward away from the current divided animosity between cyclists and cars, to one which is far more peaceful and safe. -Sam

How might we better incorporate hands on learning and doing into classrooms not only at a younger age, but up through highschool and college?

-Sam